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RADICAL CURE OF HERNIA,

WITH THE

REPORT OF THREE RATHER UNUSUAL CASES.

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THE RADICAL CURE OF HERNIA,

WITH THE REPORT OF THREE RATHER UNUSUAL CASES.*

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DURING the past few years the attention of every surgeon has been directed to the subject of the radical cure of hernia. With me this has been due not only to the numerous contributions on the subject in the medical journals, but also to the fact that I have met with a number of cases requiring operation. It is not with the majority of these cases that I propose to deal in this paper, patients in whom the indications for operation are clear, nay, imperative; that is to say, strangulations with consequent intestinal obstruction, etc. Here the only question is whether, after the urgent condition is relieved, an attempt should be made to prevent recurrence. It is undoubtedly our duty to do this whenever practicable. There is another and a numerous class of patients, concerning whom I must confess to a certain amount of hesitation when the rather delicate question of recommending operative interference arises—patients of different ages, afflicted with hernia, and wearing trusses which cause more or less discomfort. A critical reader of current literature is led to suspect that operative measures have, perhaps, been sometimes carried too far by men anxious to obtain statistical tables in support of one or another method. Every new procedure has this tendency, and after oscillating between the extremes finally finds its true place. The ultimate result will undoubtedly be to increase the sphere of operative interference, but within certain definite bounds and by means of certain definite methods. So anxious have I been to avoid going to this extreme—for I, too, must acknowledge the same tendency mentally—that I may have allowed patients to go unoperated, because they were kept moderately comfortable with a well fitting truss, one that retained the rupture, who have passed into the hands of others to swell their list of “radical cures.” It seems to me that the conscientious surgeon should propound to himself two questions before recommending operative measures:

(1) Is the “radical cure” I offer to this patient really a cure, and what certainty is there of a non-recurrence of the trouble, or to what degree will the condition be bettered?

(2) Does the danger of an operation overbalance the possible dangers and inconveniences of the palliative measures now used?

* Read before the Homœopathic Medical Club of Germantown, Philadelphia.

As to the first question, the percentage of permanent cures varies; for, while great advances have been made, the ideal operation has not yet been agreed upon by the necessary majority. Probably, one operation will never be agreed upon, but different details will be applied according to the peculiarities of the case. Macewen * has as good a record as any, having met with but one relapse in eighty-one cases, so far as he was able to trace them. McBurney † knows of but one relapse in forty cases. In judging of results, however, the element of time is all important, relapses undoubtedly occurring after the two or three years' limit set by some. Barker ‡ considers even four or five years too short a time to determine a radical cure. Banks, ‡ whose writings have a frankness and lack of bias that are convincing, gives over sixty per cent. of cures in the three-fourths of his moderate sized herniae which he had been able to trace. A little less than twenty per cent. were "improved," and this, as he justly states, is not to be forgotten in judging of results; if a hernia is but partly reducible or imperfectly retained, it is certainly improved when a truss can safely, completely and comfortably accomplish its object. He advises, however, that after every "radical cure" a light truss be worn. This is certainly not a *cure*, as, to my mind, one of the principal desiderata is to do away with this, the main *inconvenience* of palliative treatment. The majority of operators deprecate the subsequent use of the truss, which they consider has a tendency to cause absorption of the retaining cicatrix.

It appears that the radical operation is more apt to be successful in cases of strangulation (Leisrink). Probably a certain degree of inflammation is present which produces firm plastic sealing. With this observation in mind, as well as Senn's experiments, || which show that serous surfaces unite more quickly and firmly when previously scarified, I have, on two occasions (non-strangulated, of course), scratched the peritoneum where it is to be sewed or ligated in excising the sac. The advantage of this procedure is, of course, in doubt, although the ruptures have not yet recurred.

As to the question of danger, the mortality rate is certainly encouraging. Two per cent. from ten to forty years of age, and from this down to one per cent. or less, are variously given. Macewen, Barker, Ball and Franks § gave a combined record of 168 cases (non-strangulated) without a death. Banks' mortality was about three per cent.

* *British Medical Journal*, December 10th, 1887.

† *New York Medical Record*, March 23d, 1889.

‡ *London Lancet*, January 5th, 1889.

|| "Annals of Surgery," Vol. VII, pp. 368-375.

§ *British Medical Journal*, December, 1887.

in moderate sized, non-strangulated herniæ, and twenty-five per cent. in enormous ones.* McBurney † had but one death in his forty cases, and this he does not attribute to the operation. Most of the reports so far have been those of men skilled in operative work and antiseptic technique, and experienced in this particular line. Fatal cases, too, are not usually reported, and the operation for radical cure is, of necessity, one that is and will be performed everywhere, so that the mortality rate should be considered as higher. This will probably be continuously lowered as the operation is more generally applied, just as was the case with the high operation for stone.

The opinion of writers differs as to the extent to which operative interference should be carried. Spanton ‡ claims that in children it is as much indicated as those for club foot, hare lip, cleft palate, etc., and that the dangers are no greater. Weir || cautions against the tendency to indiscriminate operating, and says he does not remember ever having seen a case of strangulation following the use of a well fitting truss. Banks § considers the discomforts of a well acting truss exaggerated and asserts that this will cure the great majority of ruptures in children. In point of fact, in his list of 106 cases there are but four under the age of ten years, and one of these was strangulated. Bryant and Owen ¶ deprecate the operation in children for the same reason, unless the rupture cannot be retained. De Garmo's ** articles show the extreme in the direction of conservatism. In 1,203 herniæ one-fourth were "cured" by reduction and the truss—i. e., did not protrude for six months or more after the truss was removed; over one-third were "improved"—i. e., could wear a lighter truss were comfortable and out of danger; one-third were "retained"—i. e., held in place, but recurred if the truss was removed. The time element, in his "cures," is, of course, too short, but some, he states, have remained cured for several years. A number of his cases were incarcerated, the adhesions between the omentum and sac being broken up by patient and repeated manipulation. In others the gut was comfortably retained, although the omentum could not be reduced. These were inguinal herniæ; but Banks says that when the omentum cannot be reduced in a femoral hernia, operation is indicated because there is constant danger of strangulation. Although unwilling to go as far

* London *Lancet*, January 5th, 1889.

† Loc. cit.

‡ *Transactions of the International Medical Congress*, 1887.

|| *New York Medical Journal*, Vol. I, pp. 68 and 80, 1888.

§ *British Medical Journal*, December, 1887.

¶ London *Lancet*, January 5th, 1889.

** *New York Medical Journal*, January 21st and March 3d, 1888.

as De Garmo's articles would lead us by inference, there is one important lesson to be learned from them—that the surgeon should thoroughly understand the mechanical treatment of hernia. Patient and intelligent taxis can undoubtedly reduce many incarcerations, and the fitting of a truss should be as much studied as the steps of the different operations. We are too apt to relegate the whole matter to a truss maker, usually our favorite instrument maker, and give it no farther thought. This is emphasized when the statistics of this writer are compared with those of the London Truss Society (Span-ton)—*i. e.*, about four and one-half per cent. of cures. J. D. Bryant* does not think that a truss can cure any simple, reducible hernia, and that it must consequently always be worn during any unusual efforts. Also that mechanical appliances do not produce "the so-called cures" by inflammatory adhesions in the sac, but by a retraction and obliteration of the latter from its resiliency.

We must not, however, make too light of the successes in the direction of operation. The percentage of cures is far above the choicest statistics of mechanical measures; besides, these measures, if not soon successful, leave the patient in imminent danger of strangulation, and this at times when far from skilled surgical aid. Even when such aid is near, the mortality from operation is probably at least fifteen per cent., and enough ruptured patients ultimately require kelotomy for strangulation to make the death rate worth noting. On the other hand, the mortality of the radical operation has been shown to be small, and bids fair to decrease continuously. A well fitting and even "comfortable" truss incapacitates patients for certain walks in life to which they aspire or are compelled to turn; for example, those who desire to enter the army and navy, or go into athletics; those obliged to follow active vocations, laborers, etc., and even women with the child bearing period before them. I must confess that once surgical opinion has decided upon *the* operation or operations adapted to the varying conditions found; when this guarantees a cure in so far, at least, as it can be promised in the ordinary deformities we daily meet with; when it is such that the average surgeon can undertake it with the same assurance of success he has in operations for hare lip, cleft palate, club foot, bow legs, knock knee, etc.; when its originator will not be able to say of every failure that it was not done as he did it (Macewen); I, for one, shall be inclined to advocate cutting in almost every rupture. For the present, however, I am constrained to follow a middle course; if a hernia is completely reducible and well retained it should be left alone. The ques-

tion of comfort is largely dependent on the fitting of the truss and to a less degree upon habit. Complete reduction can often be accomplished after repeated, patient manipulation. The intelligence of the individual, the walk in life, and the occupation, are facts to be borne in mind. This applies not only to adults, but to the future of children; in the young a cure or marked improvement often result, even though the truss cause temporary inconvenience. In considering operative interference, extreme age, infirmities and intercurrent disease must first be eliminated. Then, if the hernia be incarcerated, if it cannot be retained, or is on the increase; if it interferes with the daily work or duties, even prospectively; if it causes excessive discomfort after the faithful and intelligent use of mechanical measures; if the testicle is becoming affected by the truss, I think we are justified, nay, bound to operate. I have but little doubt that, as some claim, the medical mind is being educated to a point where ruptures will be more generally operated, just as it has taken years to realize the importance of early operation in cases of strangulation.

As already stated, the question of the operative treatment of hernia is still to a certain extent *sub judice*. Its history, while extensive, consists largely of developmental repetitions. In the cautery and caustics of the ancients, in their golden and royal stitch, in the epidemic of castration during the last century, and, still later, in the use of the seton; we see foreshadowed, in a rough way, the more modern procedures. Their object, even though faulty in principle and imperfectly applied, was to obliterate the sac and approximate the walls of the canal, and it was long ago recognized that the presence of the cord was an obstacle to complete closure. This has not yet been entirely overcome. I was much impressed with the ease with which obliteration of the canal could be effected after removal of the cord in a case I recently operated. There was strangulation of a knuckle of gut by the neck of the sac, in front of which lay an undescended testicle. The hernia had been reduced *en bloc* within the internal ring. Castration was done, the testicle in such cases, as is well known, being useless, besides causing, in this instance, constant discomfort. The canal was then accurately and firmly closed without difficulty.

Of more recent date are the subcutaneous ligature (John Wood), and irritating injections of iodine into the sac (Pancoast), or of oak bark into the surrounding tissues (Heaton, Warren, Keetley). The last method is still practiced by its advocates in selected cases, and injections of alcohol are similarly used by some in Europe. Since the beginning of the antiseptic era, and more particularly since expe-

rience has done away with the dread of the peritoneum, the tendency has been to give up the groping element and carry out the different steps under the guidance of the eye; in other words, herniæ have been treated by dissection. That opening the peritoneum is still considered a source of danger is shown by the statement of Thomas Bryant,* that it quadruples the risk. It appears to me that he refers to children, although he has been quoted as applying the statements to adults as well.

Next to careful asepsis, complete closure of the sac to shut off the peritoneal cavity from subsequent infection has helped more than anything else to reduce the mortality after kelotomies. Weir † quotes statistics to show that, while antiseptic precautions diminished the death-rate after operations for strangulation only about eight per cent. (Schmidt), these, combined with early interference, and especially closure of the abdominal opening, brought it down over twenty-five per cent. (Banks, Leisrink, Anderegg). Many operators were satisfied with this and devoted their attention to closing the external ring, leaving a peritoneal pouch behind to invite recurrence.

Probably the most important step toward successful cure was the complete obliteration of the sac, the restoration of a perfectly smooth peritoneal surface on the inside. Some writers consider this all-sufficient (Anderegg, Banks). However this may be, one thing is certain, no matter what is superimposed, if a peritoneal pouch exists and a hernia enters it, nothing in the shape of tissue can stop its advance. The sac is generally freed up to or within the internal ring, but in case it is large or firmly attached, Barker ‡ divides it at the external ring and leaves the fundus in place. It is then treated in a variety of ways:

First. It is excised after ligature of the neck (Czerny, Nussbaum, Banks, McBurney, etc.)

Second. It is excised and the peritoneum carefully drawn together with sutures (Marcy and others).

Third. It is twisted until any pouch is obliterated, and the parietal peritoneum is thrown into a series of stellate folds (Ball, Stoker).

Fourth. It is folded on itself a number of times by stitches and applied inside the internal ring as a pad or buttress (MacEwen).

Fifth. It is ligated at the external ring, the ends of the ligature being left long, and the stump carried up inside the internal ring. The threads are passed through the edges of the latter to close it when they are tied (Barker).

* *London Lancet*, Vol. I, p. 19, 1889.

† *New York Medical Journal*, January 21st, 1888.

‡ *British Medical Journal*, December 3d, 1887.

Sixth. It is woven across, inside the ring, through slits made on either side of the aperture (J. D. Bryant).

Seventh. The sac and omentum are included in a puckering string stitch, and the mass fastened inside the ring (Warren).

The aim in all is obliteration of the peritoneum pouch, leaving a smooth surface or making a buttress or a plug.

The question concerning which there has been the greatest difference of opinion is the treatment of the canal or "hole" that remains. The different methods may be divided into two classes :

First. To close, more or less completely, the different structures by suture—*i. e.*, an attempt to restore the normal condition.

Second. To allow or oblige the wound to heal by granulation—*i. e.*, to interpose a mass of scar tissue as a bulwark against protrusion.

It would be impossible, as well as unnecessary, to review all the different methods proposed ; I shall, therefore, briefly run over a few of those most practiced, as types of each class.

Macewen,* after treating the sac as already described, draws together the conjoined tendon, Poupart's ligament, and the muscular aponeuroses. This closes the canal and tends to restore its valve-like formation. He uses chromicized gut, sutures the outer wound and drains with chicken bone. I have applied this method in one case, an oblique, inguinal, strangulated hernia with a medium sized, strong sac. There was some suppuration and discharge of a couple of iron-dyed sutures, used instead of the chromicized catgut, which I have found unreliable as we obtain it here. The result was good, and no recurrence has taken place as yet, nearly two years. On another occasion, after splitting the canal and twisting the sac, I closed the former in the same way. This method has given Macewen the best results on record. He states that he has applied the principle of the folded sac to other than oblique inguinal herniæ, but gives no details of the subsequent steps, so far as I know.

Riesel,† to insure complete excision of the sac and suture of the ring, split up the canal to the internal orifice, and then, if necessary, cut off enough of the anterior wall to close it on uniting the edges. This is a most valuable procedure, both for removing the sac and closing the canal. In fact, theoretically at least, it seems the ideal. I have tried it, with slight modifications, in five cases (three strangulated), and the one relapse so far has been along the cicatrix of the drain at the outer end. The hernia is direct and has not entered the canal.

* "Annals of Surgery," August, 1886.

† *Deutsche Mediz. Woch.*, 1887, p. 449.

Maydl, I understand, is practicing and teaching a modification of the Czerny-Riesel method; he cuts a groove into which he sews the cord and then tightly closes the canal and wound.

Considerable discussion has arisen concerning the advisability of closing the rings, and different methods and different substances have been used to accomplish this. It has been argued that it is useless to try to bring about union of two thin fibrous edges which have to be drawn together with considerable tension. On the other hand, it is claimed that, while complete closure may not be obtained, the sutures will prevent protrusion until healing is complete. Furthermore, those who use stable sutures (silk and wire) think that when aseptic they act as permanent supports. It has been also objected that a canal nature intended to keep patent can never be closed; that the distortion cannot be corrected and the valve-like formation restored; and that it is impossible to permanently draw the conjoined tendon toward Poupart's ligament. Therefore, it has been proposed to build up a wall of scar tissue, which shall plug the canal and the openings. This was practiced by Banks and others in femoral and large herniæ, suture of the opening preventing protrusion temporarily. Another and more systematic method of accomplishing the same object, one that bids fair to become very popular, is that proposed by McBurney.* His aim is to build this cicatricial wall from the peritoneum up, and he substitutes a recumbent posture for about six weeks, or throughout healing, for the supporting sutures. It differs from that of Riesel in the treatment of the canal and the ring. The conjoined tendon, the aponeurosis of the external oblique and the skin are united with sutures on one side, and Poupart's ligament and the skin on the other, the skin of both sides being deeply inverted. The wound is thus kept open and packed throughout with iodoform gauze up to the subperitoneal connective tissue. Healing from the very bottom is insured with a large and firm cicatrix. This method has, undoubtedly, given its originator excellent results, one relapse in forty cases, as already stated. J. D. Bryant, however, has met with one relapse in five cases. If further experience shows the retentive power of the cicatrix to be permanent, this method has much to commend it, and from its simplicity may become *the* operation. It seems to me that, after all, success here is largely due to obliteration of the sac, and if failures occur they will be due to the formation of a pouch from contraction of the scar. Warren† speaks of infolding the tissues at the site of the ring to produce a raised cicatrix pointing inward, and this

* *New York Medical Journal*, January 21st, 1888.

† *Journal American Medical Association*, November 2d, 1889.

applies here; the cicatricial tissue starts from the peritoneum and contracts in every direction, therefore tending to draw this membrane toward it. This may be the secret of Macewen's success, for the buttress will change, at most, to a smooth peritoneal surface when drawn in by cicatricial contraction.

I have not had a method of my own to advocate and follow, and hence my experience lacks value as a support to any particular procedure. For the same reason I have varied the technique according as something that appeared to me of value was published, and have endeavored, more particularly, to individualize my cases, and apply one or another method or step that seemed best adapted to the conditions found. In a medium sized hernia with a sac that can be readily separated, I should prefer to treat it as recommended by Macewen: if there is room to make slits on each side of the ring, Bryant's weaving process may be worthy of trial; if the sac is firm but small, twisting will answer, but if thin, ligation is better. On the other hand, when it is very easily torn, as I have found in one case (*Hahnemannian Monthly*, July, 1889), the opening may not only have to be sutured, but some portions of the sac utilized in closing the peritoneum. If the sac is firmly adherent I would prefer Barker's plan, leaving the greater portion in place and treating the neck as appeared most appropriate. I have on three occasions applied the principles of McBurney's method in femoral* and once in inguinal hernia with gratifying results. Previously I had three times closed the cavity layer by layer, with one relapse and one death (all strangulated). In one large, strangulated, umbilical hernia I drew together the mouth of the sac on the level of the peritoneum with a puckering-string stitch; folded, reduced and fastened it inside to the abdominal wall as a buttress and plug. A few sutures, passed from one knife-like edge of the fibrous opening to the other, served to prevent protrusion. The large cavity was then packed with iodoform gauze, the edges being deeply inverted. In inguinal herniae of moderate size, where there is a *canal*, my experience has led me to prefer what is practically the method of Riesel. The sac is treated according to the indications mentioned, and the canal tightly closed by sewing down layer after layer, the edges having been trimmed to diminish its size. The two sides are either drawn together or a strip of gauze is packed between them. If the internal ring is large, it is sutured, and the wound either accurately closed or a strip of gauze packed down at the outer end.

* Two of these have been reported: *Hahnemannian Monthly*, July and October, 1889.

Various methods of dressing have been recommended. To me the scrotum and groin have always been bugbears in this respect. Marcy extols iodoform collodion. I am very fond of this or photoxyllin (Wahl),* which are admirably adapted to hermetically seal a wound in this dangerous locality, and do not preclude the use of drainage or packing at one end. This can, of course, only be applied where the closed method is practiced. The difficulty of dressing this region has been noted by others: Gerster† advises that in children, after occlusion of the sac and canal, the external wound be packed. He has found that otherwise contamination invariably prevents primary union. In the open wound method the dressing used by McBurney is probably the safest. He applies, over the gauze and cotton, a spica of plaster of Paris, which he shellacs in children.

The following cases, three in number, a brief account of which I append, are of interest principally from the peculiarities they presented. Of course they are of too recent date (three to four months) to be classed as cured, and I would protest against the value of the many reports of so-called radical operations, a few weeks or months old, as bearing upon the question of ultimate cure.

CASE I.—H. K., aged twenty-three years, consulted me last winter for a large hydrocele. The groin and scrotum had been swollen ever since childhood. He had been tapped several times, and the walls of the sac were much thickened and opaque, transmitting no light. Above this was a hernia which could only be partially reduced, the adherent portion being, in all probability, omentum. It was increasing in size, and but imperfectly controlled by a truss which caused pain and annoyance. After tapping twice I advised operation for radical cure of the hydrocele (Volkmann's or excision of the sac), with the understanding that the hernia should also be treated at the same time, if I saw fit.

OPERATION. August 9th, 1889, at the Hahnemann Hospital, with the usual antiseptic precautions. On incising and emptying the hydrocele sac, I found at its apex a teat of omentum. This evidently shut off the scrotal cavity from that of the hernia, as the finger could readily push it up, invaginating one sac into the other, and reach the internal ring through the much dilated inguinal canal. The incision was carried upward and outward beyond the internal ring and the canal split throughout its whole extent. The sac contained a large piece of omentum adherent at the point mentioned. This was tied off in sections and the stump tucked back into the abdominal cavity. The sac was then dissected up to and within the internal ring, ligated with heavy catgut and excised. It was found very difficult to separate it from the cord, with which it was very intimately connected,

* *Centralbl. für Chirurgie*, 1887, p. 571.

† *New York Medical Journal*, January 21st, 1888.

and the adherent portions were therefore cut off and left in place. The internal ring was drawn together by a cobbler's stitch of heavy catgut, pushing the cord upward (Marcy), and the two flaps trimmed off and stitched down layer by layer to the bottom of the canal. The wound was then closed by drawing the two sides together obliquely, so as to leave a pucker at the outer end for drainage (Franks). The hydrocele sac was excised and the scrotal wound lightly sutured with free drainage. So tightly had the inguinal canal been closed that the venous oozing from the testicle was quite free and persistent. No harm resulted. Iodoform dressings completed the operation. Healing was uneventful, barring a troublesome cystitis which developed after catheterization for retention. He is now at work, on his feet and lifting most of the time; wears no truss and presents no sign of recurrence, the scar being very firm.

I am inclined to think the hydrocele and hernia were congenital or nearly so, the separation of the two sacs being a subsequent development produced by the omental plug. Such a separation can certainly take place, although I do not remember ever having seen it described. The division was midway between the external ring and the bottom of the scrotum.

CASE 2.—Mrs. R., aged fifty-four years, sent me by Dr. B. H. Shivers, of Haddonfield, N. J. For twenty-five years a tumor has been developing in the left groin. It is now as large as a babe's head, is very painful, and incapacitates her for work. It is dull on percussion; cough impulse, if present, is very vague; on top (as she lies) is a fistulous opening which freely discharges a watery, shreddy pus; into this the probe passes and can be moved subcutaneously in every direction. Remembering Weir's* success in reducing a hernia in a child by hooking a finger over the gut from the rectum, this was tried as a means of diagnosis both from the rectum and vagina, but with negative result.

OPERATION, at the Hahnemann Hospital, August 16th, 1889. An oblique incision, parallel with Poupart's ligament, opened a suppurating cavity with a serous lining on the skin side and a tumor with a similar covering on the lower side. This was limited by inflammatory adhesions, and on breaking them up, after active disinfection, a hernial sac was found containing several feet of large intestine, a fold of omentum and the tumor. The latter, a lipoma, sprang from the colon, being evidently an overgrowth of one of the appendices epiploicæ. The adhesions and the tumor were tied off and the contents reduced, after freely enlarging the abdominal orifice upward. The sac was excised, the peritoneum carefully drawn together by stitches and the extensive, inverted T-shaped wound united layer by layer, after trimming down the flaps. Drains were inserted at the angles and iodoform dressings applied. She recovered without untoward symptoms, and is now, I understand, about her work again (cook) wearing an elastic bandage and without sign of recurrence.

* *New York Medical Journal*, Vol. I, 1888, p. 77.

The lipoma here was unusually large, and did not spring, as is generally the case, from the omentum, but from one of the appendices of the colon. These were all of considerable size, there being several in the hernial sac on both sides of the pedicle of the tumor.

CASE III.—Mrs. T., widow, aged sixty-five years, referred to my service at the Hahnemann Hospital, from the gynaecological department, by my colleague, Dr. Betts. Right femoral hernia that has existed for ten years, but has been rapidly increasing for two years. This was the largest rupture I have ever seen, extending nearly to the knee and producing a deformity noticeable through the clothing. It was held up by a home-made supporter, but the walls were so thinned that in places they threatened to burst; the intestinal movements were distinctly visible. She was rendered practically helpless; was more and more troubled with constipation and colicky pains, upon which vomiting had several times supervened.

OPERATION, August 19th, 1889, under strict antiseptics, as usual. The tumor was incised and the sac immediately reached. In it was found everything, excepting, as a bystander remarked, the stomach and the rectum: colon, cæcum, vermiform appendix, small intestine and omentum. Numerous adhesions were tied or burned off, and, to reduce the mass, the opening had to be freely enlarged upward. Fortunately the lax abdominal walls permitted the return of its former contents without much difficulty. The sac was excised; the peritoneum accurately united and the muscles and skin sutured layer by layer. Iodoform gauze was packed into the hernial opening, which, of course, could not be closed, protrusion being prevented by a few stitches crossing it in every direction (Warren). The immense cavity on the thigh was closed by a Zesas suture and drained. There was considerable gaping, subsequently, around the gauze, and a large cavity slowly filled by granulation from the peritoneum up. As a consequence, there is a powerful, depressed scar. Vomiting was a persistent and recurring symptom, although unaccompanied by rise of temperature or abdominal tenderness. She is about without a truss, and no recurrence as yet.

It is claimed that these large ruptures should be left alone. Here, however, was a woman rendered helpless by this transfer of the abdominal contents into a thin bag on the thigh. The hernia was rapidly increasing in size, and threatened to burst at no distant date. The warnings of approaching strangulation had been given, and, in fact, it is a wonder to me that this had not occurred long before, on account of the small size of the opening. Strangulation including such an amount of bowel meant almost immediate death. Patency was kept up only by increasing doses of purgative medicine, and constipation had been complete for several days previous to operation, in spite of heroic medication. Reduction was impossible, on account of the adhesions and the small aperture, even after the sac was opened. She

was otherwise in good health. The indications for operation were certainly clear. I was fortunate in finding lax abdominal walls that permitted the replacement of such an extensive mass. This is one of the main difficulties with these enormous herniæ. As to the result—there will probably be no need of a truss, making it a complete cure instead of a partial one, although I only expected the latter. The scar is large, depressed and very firm, and the peritoneum was evenly united, leaving no pouch to invite recurrence. An elastic support will be worn, more to hold up the lax abdomen than to make any pressure over the hernial cicatrix, which would be detrimental. Dulles* has called attention to this, and thinks the support diverts the general "thrust" of the abdominal contents into the pelvis. He claims that every case of hernia has lax walls. However this may be, I have used a support where such a condition is marked. It seems to me preferable to a truss above the canal, as recommended by De Garmo,† who applies it here to avoid absorption of the cicatrix. In this case a truss would only tend to open the vertical laparotomy wound above.

* *New York Medical Journal*, March 17th, 1889.

† *Transactions New York Medical Society*, February, 1889.

